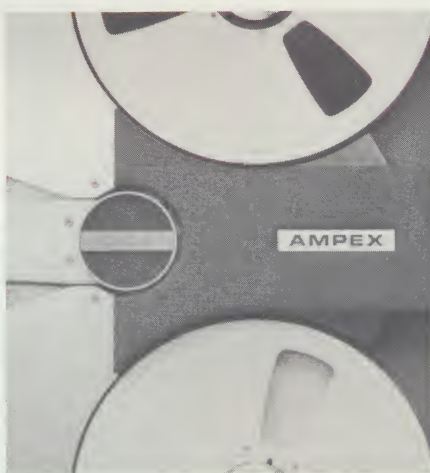


FIRST OF A NEW GENERATION

OF LABORATORY RECORDERS FROM AMPEX

FR-1800

1.5-Mc
INSTRUMENTATION
RECORDER



AMPEX

FR-1800

1.5-Mc INSTRUMENTATION RECORDER

*A new instrumentation recorder
from Ampex featuring a
completely new transport with
field-proven electronics.*

- Reliability through simplicity of design which eliminates 60% of parts used in comparable recorders.
- Fast response servo provides excellent time base accuracy.
- Chute guides with pneumatic cushioning minimize Interchannel Time Displacement Error.
- Zero-loop capstan lowers flutter. No pinch rollers.
- Bidirectional, seven-speed operation for flexibility.
- Requires no mechanical adjustments, minimum electrical adjustments.
- Versatile electronics provide flexibility and compatibility.

Completely new transport design for high performance

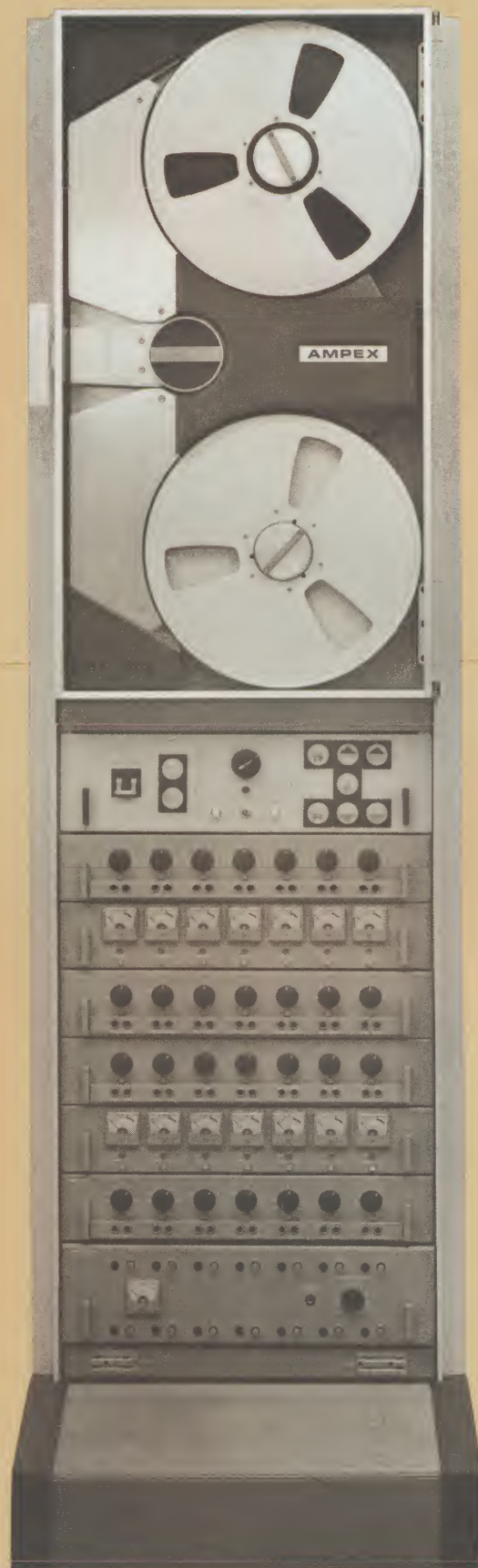
With the FR-1800, Ampex introduces to the instrumentation field a new transport featuring a fast response servo, zero loop capstan and pneumatic chute guides.

This unique new combination of tape control elements offers a new standard in low time base error, flutter, and interchannel time displacement error. Coupled with field proven electronics, the FR-1800 represents an outstanding magnetic tape recorder, destined to become the workhorse of the industry, because of its performance and reliability.

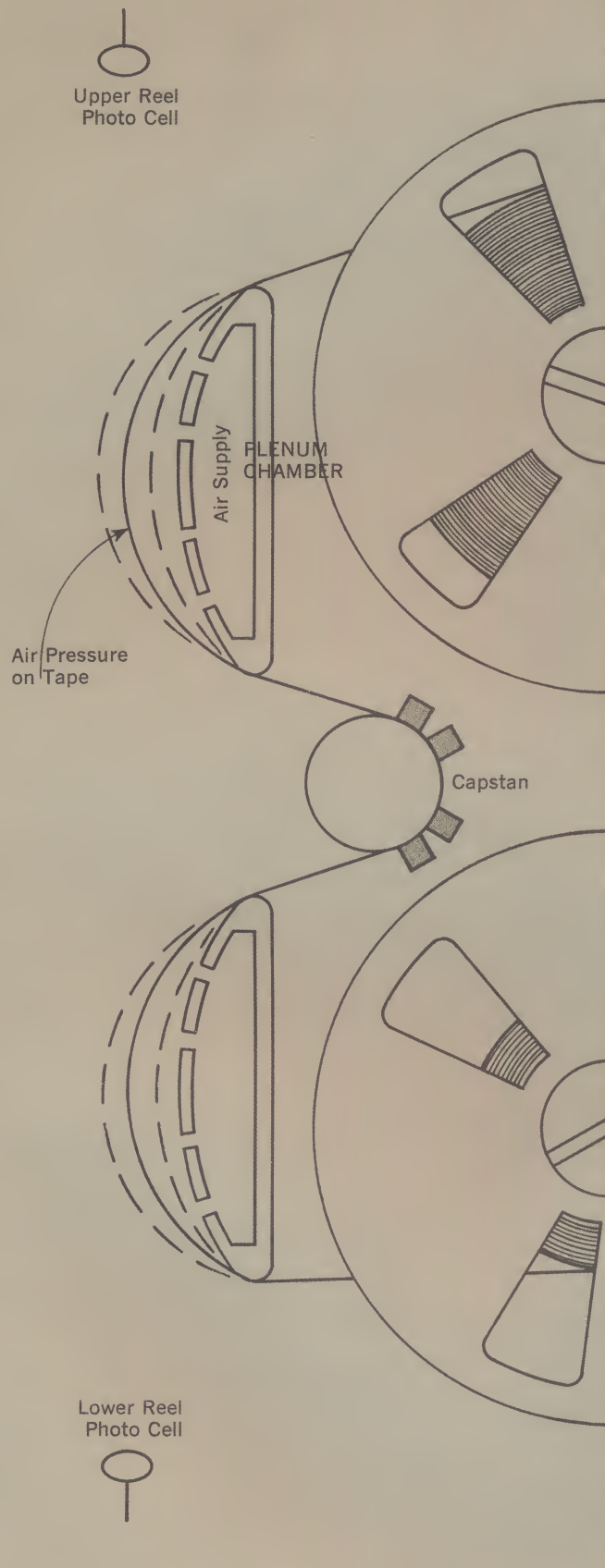
Simplicity brings new reliability

Because the unique FR-1800 zero loop capstan and chute guides eliminate so many moving parts, they offer increased design simplicity to augment the already high order of simplicity of the recorder. The Ampex FR-1800 has 60% fewer parts than any transport with comparable performance. Besides having fewer parts, the FR-1800 has undergone exhaustive testing. FR-1800's have pulled over 50 million feet of tape (about 10,000 miles) without failure or significant wear during more than 2000 hours of testing.

No mechanical adjustments and less than ten "set and forget" electrical adjustments are required on the transport. Tape threading is simple and foolproof as an added benefit of zero loop design for operator simplicity. Built-in optional shuttle capability simplifies searching for data and makes it possible to repeat data between two preset points.



FR-1800 TAPE TRANSPORT



Fast response servo reduces Time Base Error

The FR-1800 capstan is completely servo controlled at all times to assure that all recording is done at absolutely constant speed regardless of power or environmental variations. Balanced in design, the FR-1800 capstan servo is unique in that it combines the benefits of a fast response servo for good time base stability, with a capstan flywheel of adequate mass for minimum flutter. The closed loop servo is crystal referenced during the record mode and referenced from a high-frequency control track signal on the tape during the reproduce mode. This enables the servo to react quickly and to correct for errors caused by tape dimensional changes or speed variations between different recorders and reproducers, thereby maintaining the original time base integrity of your data.

Zero loop capstan reduces flutter

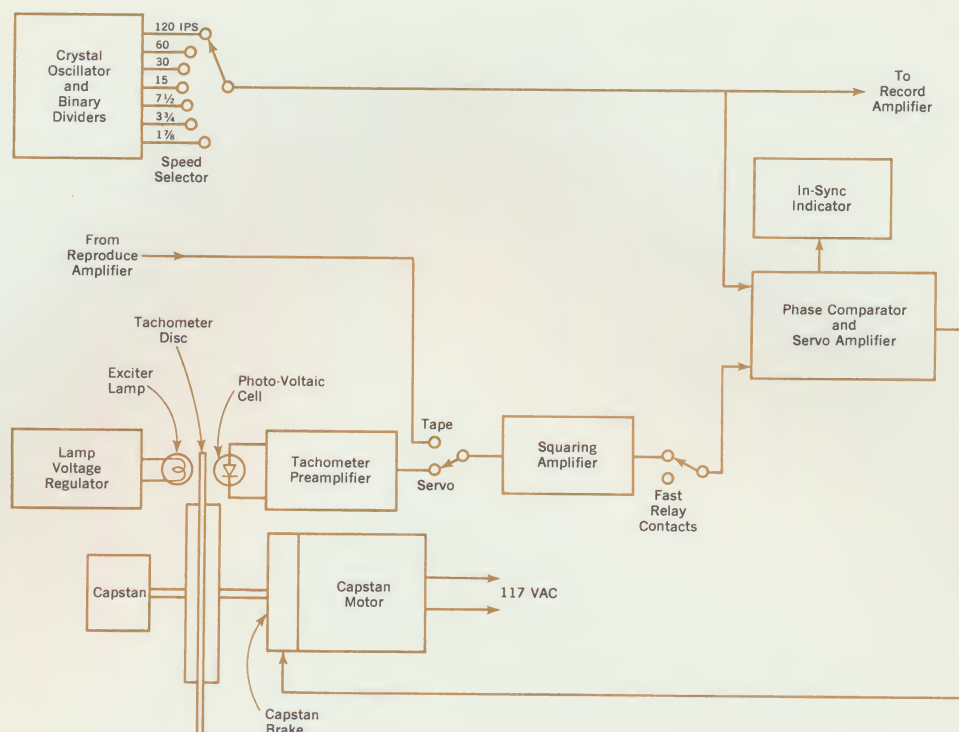
Zero loop tape drive represents a major advance in present day recorder technology. The tape is supported without slip by the capstan at all times throughout the head area. All pinch rollers, idlers, rotating guides, and other moving elements are eliminated. The capstan is the only rotating element in the drive system. Minimum friction is obtained by the use of only two edge guides (integral parts of the chute guides), and no rotating guides.

Results are lower flutter and skew, and improved time base stability, unmatched by any recorder in this price range. An added benefit is the simplified tape threading, which couples simplicity of operation with the inherent design simplicity of the FR-1800.

Chute guides for decoupling and low skew

Chute guides with pneumatic cushioning provide total decoupling between reels and capstan to minimize tape perturbations and tension changes. These perturbations, caused by dimensional and tape pack irregularities are a prime source of skew and time displacement error in other recorders. The chutes act as long stationary guides which are nearly frictionless because of the pneumatic cushion on which the tape rides. In addition, each chute acts as a massless storage buffer between reel and capstan to

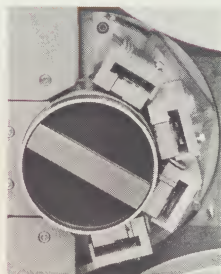
FR-1800 Chute Guide plenum chambers and reel servo system. At left are skew minimizing chute guides with their pneumatic decoupling action. In the center is the large zero loop capstan configuration which significantly reduces flutter. Capstan is controlled in all modes by a fast response servo which provides high time base accuracy. Reel motors are controlled by separate optical/electronic servo systems. Note simple tape threading path.



FR-1800 CAPSTAN SERVO SYSTEM

Fail-safe servo minimizes time base errors, provides seven-speed bidirectional operation, electrically switched. Reference is selectable, crystal standard or control track. Loss of control track signal automatically switches servo to internal reference.

FR-1800 zero loop capstan. Capstan is the only rotating element in the tape path. Tape is locked to the capstan. All pinch rollers, idlers, and rotating guides are eliminated. Heads are IRIG compatible, and plug-in interchangeable. The reproduce heads have adjustable azimuth.



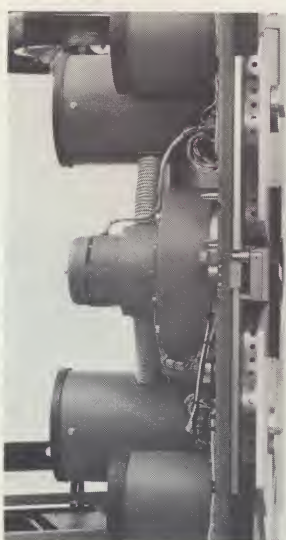
eliminate tape disturbances and perturbations that would otherwise cause skew and flutter. A reel servo system assures that the tape supply remains constant in the chutes throughout the reel of tape regardless of direction or mode of operation.

Another benefit of the pneumatic system in the chute guides is the tape cleaning effect of positive air pressure which blows dust and other impurities off the tape before it enters the head area.

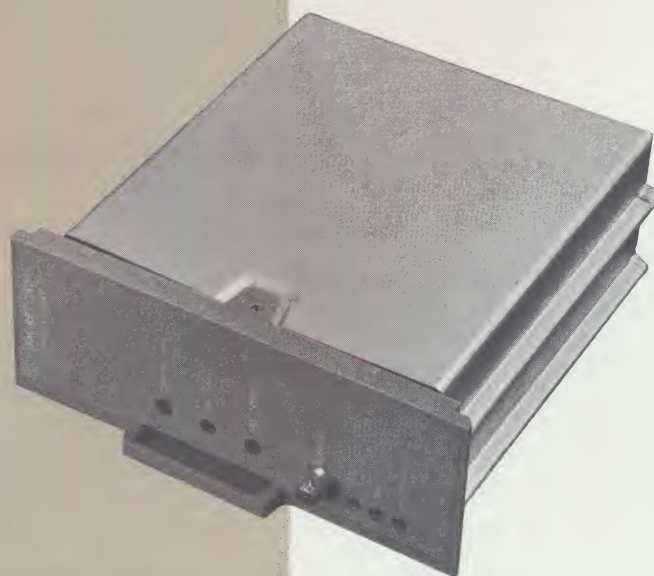
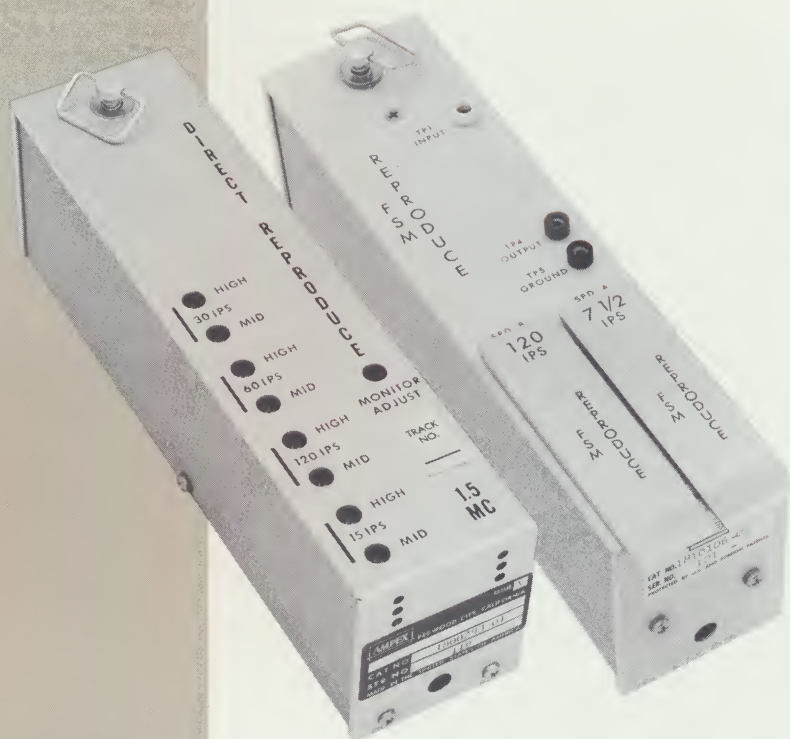
Constant head pressure improves head to tape contact

For the first time, head to tape contact is independent of tape tension — an important benefit of the FR-1800 zero loop design. A constant head pressure, responsive to tape thickness variations, improves head to tape contact. Heads retract in fast modes; retraction can be defeated for searching.

FR-1800 chute guides. Positive air pressure within the chutes cushions tape and provides decoupling between reels and capstan to eliminate effects at motion or tension perturbations.



VERSATILE ELECTRONICS FOR COMPATIBILITY



Strategically located sales offices offer immediate service

UNITED STATES

ALBUQUERQUE, NEW MEXICO 87108
414 San Mateo Boulevard N.E.
265-8507 TWX 505-243-9520

ATLANTA, GEORGIA 30326
3376 Peachtree Road N.E.
231-3480 TWX 404-231-1637

CAPE KENNEDY
1980 North Atlantic Avenue
Cocoa Beach, Florida 32931
783-1811 TWX 305-783-1738

BOSTON AREA
235 Bear Hill Road
Waltham, Massachusetts 02154
TWInbrook 9-2040 TWX 710-324-0364

CHICAGO AREA
2-N-575 York Road
Elmhurst, Illinois 60127
TErrace 3-8500 TWX 910-254-1429

DALLAS, TEXAS 72535
2626 West Mockingbird Lane
Fleetwood 7-0481 TWX 214-899-9001

DAYTON, OHIO 45402
333 West First Street
BAldwin 8-5117 TWX 513-944-0024

HOUSTON, TEXAS 77023
6001 Gulf Freeway
WAlnut 8-3741 TWX 713-571-1494

HUNTSVILLE, ALABAMA 35801
3322 South Memorial Parkway
881-4271 TWX 205-533-2820

LOS ANGELES, CALIFORNIA 90048
8467 Beverly Boulevard
OLive 3-1610 TWX 213-655-6535

MINNEAPOLIS, MINNESOTA 55424
4010 West 65th Street
WAlnut 7-5638 TWX 910-576-2806

NEW YORK AREA
75 Commerce Way
Hackensack, New Jersey 07601
489-7400 TWX 201-488-6715
(In New York, Phone 736-6116)

PHILADELPHIA AREA
947 York Road
Abington, Pennsylvania 19001
TUrner 7-7650 TWX 215-884-2822

PHOENIX, ARIZONA 85020
8900 North Central Avenue
Windsor 4-4381

SAN FRANCISCO AREA
2220 Bay Road
Redwood City, California 94063
EMerson 7-3861 TWX 415-364-9034

SEATTLE, WASHINGTON 98118
8434 Rainier Avenue South
PArkway 3-3170 TWX 206-998-0914

WASHINGTON D.C. AREA
3620 South 27th Street
Arlington, Virginia 22206
671-4000 TWX 703-671-7929

Term financing and leasing available
on all equipment and systems.

INTERNATIONAL

AUSTRALIA

AMPEX AUSTRALIA PTY. LTD.
NRMA House, 26 Ridge Street
North Sydney, N.S.W.

BRAZIL

AMPEX PAN AMERICAN COMPANY
Rua Mexico 11
Conj. 602-2C-39
Rio de Janeiro

CANADA

AMPEX OF CANADA, LTD.
136 Skyway Avenue
Rexdale, Ontario

OTTAWA OFFICE
Suite 800
77 Metcalfe Street
Ottawa, Ontario

CALGARY OFFICE
134 Forge Road
Calgary, Alberta

COLOMBIA

AMPEX PAN AMERICAN COMPANY
Edif. Cardenal Luque
Carrera 10, No. 19-64, Oficina 504
Bogota, D.F.

ENGLAND

AMPEX GREAT BRITAIN LTD.
Acre Road
Reading, Berkshire

FRANCE

AMPEX
41, Avenue Bosquet
Paris 7^e (Seine)

GERMANY

AMPEX EUROPA GmbH
Dusseldorfer Strasse 24
Frankfurt/Main

HONG KONG

AMPEX WORLD OPERATIONS S.A.
Room 201
Rediffusion House
Gloucester Road
Hong Kong, B.C.C.

MEXICO

AMPEX DE MEXICO S.A. de C.V.
Insurgentes Sur No. 662
Desps. 204 y 205
Mexico 12, D.F.

SWITZERLAND

AMPEX S.A.
Via Berna, 2
Lugano, Tessin

UNITED STATES

AMPEX INTERNATIONAL
OPERATIONS, INC.
1212 Avenue of The Americas, Suite 2305
New York, New York 10036

AMPEX PAN AMERICAN COMPANY
Box 4000
Redwood City, California 94063

Contact nearest international office
regarding term financing and leasing.

AMPEX

AMPEX CORPORATION

401 Broadway • Redwood City • California • U.S.A. • 94063